'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 1st Semester Examination, 2022

CC2-GEOLOGY

Time Allotted: 2 Hours | Full Marks: 40

The figures in the margin indicate full marks.

1. Write short notes on any ***five*** of the following: 1×5 = 5
   (a) Metallic bonding
   (b) Piezoelectricity
   (c) Fracture
   (d) Polymorphism
   (e) The crystal form of $\bar{4}2m$
   (f) Example of double chain Inosilicate
   (g) Bravais lattice
   (h) Example of Uniaxial positive mineral.

2. Answer any ***three*** questions from the following: 5×3 = 15
   (a) What is Streak? Why is it considered a better diagnostic property for identifying a mineral than Body colour? Name two sulphide minerals and two oxide minerals. 1+2+2
   (b) With a diagram explain how apical oxygen is shared in chain silicates and also give examples for each case. 5
   (c) Write the axial relationship for tetragonal system and draw the stereogram for $\bar{6}2m$. 5
   (d) Define Optical Indicatrix and explain indicatrix for Uniaxial minerals. 5
   (e) What do you mean by Lustre of a minerals? Describe different types of lustres with one mineral example of each. 1+4

3. Answer any ***two*** questions from the following: 10×2 = 20
   (a) Describe Pauling's Rules of bonding. 10
   (b) Define Steno's law. Write the symmetry elements for 4/m 2/m 2/m. With the help of example write short notes on: 2+2+3+3
   (i) Miller indices (ii) Crystallographic Zone
   (c) Explain briefly the formation of Uniaxial Optic Axis Interference Figure. And also write down the process of determining of Optic Sign. 7+3
   (d) With the help of suitable diagrams, describe the different types of Silicate structures. 10

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